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SEQ ID NO:18 -----
SEQ ID NO:22 TKTSAFFLFTLSLRNMTTEERNVRKTRV-----VDVVDCVIPYIDDPKDRDAVSQVC
SEQ ID NO:20 MGGEAP-----EARRLDAMSEFGGAGSIPEEALHLVLGYVDDPRDREAVSLVC
SEQ ID NO:37 M-----EDPDIKRCKL--SCVATVDDVIEQVMTYITDPKDRDSASLVC
1 60

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SEQ ID NO:18 -----TRPRT-----
SEQ ID NO:22 RRWYELDSLTRKHVTIALCYTTTPARLRRRFFHLESCLKGKPRAAMFNLIPEDWGGHVT
SEQ ID NO:20 RRWHRIDALTRKHVTVPFCYAAAPAHLLARFPRLES LAVKGKPRAAMYGLIPEDWGAYAR
SEQ ID NO:37 RRWFKIDSETREHVTMALCYTATPDRLSRFPNRLRSCLKGKPRAAMFNLIPEWGGYVT
61 120

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SEQ ID NO:18 -----
SEQ ID NO:22 PWVKEISQYFDCLKSLHFRRMIVKSDLQNLARDRGHVHLALKLDKCSGFTTDGLFHIGR
SEQ ID NO:20 PWVAELAAPLECLKALHLRRMVVTTDDDLAALVRARGHMLQELKLDKCSGFSTDALRLVAR
SEQ ID NO:37 PWVTEISNNLRQLKSVHFRRMIVSDLDLDR LAKARADDLET LKLDKCSGFTTDGLLSIVT
121 180

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SEQ ID NO:18 * ** * ** * ** * ** *
SEQ ID NO:22 --RGLETLFLEESTIDEKENDEWIRELATNSVLETNFFLTDL-RASPEYLTLLVRNCQ
SEQ ID NO:22 FCKSLRVLFLEESSILEKD-GEWLHELALNNTVLETNLFYLTDLAVVKIEDLELLAKNCP
SEQ ID NO:20 SCRSRLTLFLEEC SIADNGT-EWLHDLAVNPNVLETNLFHMTL-TVVVPADLELLAKKCK
SEQ ID NO:37 HCRKIKTLLMEESSFSEKD-GKWLHELALQHTSLEVLNFMTEFAKISPKDLETIARNCR
181 240

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* * * * *
SEQ ID NO:18  RLKTLKISECFMPDLVSLFRTAQTLOEFAGGSFEEQGPVASRNYENYFPPSLHRLSLL
SEQ ID NO:22  NLVSVKLTDCIEILDVNFHFKHASALEEFCGGTYNE--E---PERYSAISLPKLCRLGLT
SEQ ID NO:20  SLISLKISDCDFSDLIGFFRMAASLQEFAGGAFIEQGELT--KYGNVKFPSRLCSLGLT
SEQ ID NO:37  SLVSVKVGDFEILELVGFFKAAANLEEFCCGSLNE--DIGMPEKYMNLVFPKLCRLGLS
241 300

* * * * *
SEQ ID NO:18  YMGTNMQILFPYATALKKLDLQFTFLSTEDHCQIVQRCNSNLETLEVRDVIGDRGLQVVA
SEQ ID NO:22  YIGKNELPIVFMFAAVLKKLDLLYAMLDTEHCHMLIQRCPNLEVLVLETRNVIGDRGLEVLG
SEQ ID NO:20  YMGTNEMPIIFFSALLKKLDLQYFTLTEDHCQLIAKCPNLLVLAVRNVIGDRGLGVVA
SEQ ID NO:37  YMGPNEMPILFPFAAQIRKLDLLYALLETEHCHTLIQKCPNLEVLVLETRNVIGDRGLEVLA
301 360

* * * * *
SEQ ID NO:18  QTCKKLHLRLRVERGDDDDQGGLEDEQGRISQVGLMAIAQGCPELTYYWAIHVSDITNAALEA
SEQ ID NO:22  RCCKRLKRLRIERGDDDDQG-MEDEEGTVSHRGLIALSQGCSELEYMAVYVSDITNASLEH
SEQ ID NO:20  DTCKKLQRLRVERGDDDDPG-LQEEQGVSVQGLTTVAVGCRELEYIAAYVSDITNGALES
SEQ ID NO:37  QYCKQLKRLRIERGADQEG-MEDEEGLVSQGLIALAQGCQCELEYMAVYVSDITNESLES
361 420

* * * * *
SEQ ID NO:18  VGTCSKNLNDFRVLVLLDREAHITELPLDNGVRALLRGCTKLRFFAFYVRPGALSDVGLGY
SEQ ID NO:22  IGTHLKNLCDFRLVLLDHEEKITDPLDNGVRALLRGCDKLRFFALYLRGGGLTDVGLGY
SEQ ID NO:20  IGTFCKNLCDFRLVLLDREERITDPLDNGVRALLRGCTKLRFFALYLRPGGLSDTGLGY
SEQ ID NO:37  IGTYLKNLCDFRLVLLDREERITDPLDNGVRSLLIGCKKLRFFAFYLRQGGGLTDLGLSY
421 480

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* * * * *
SEQ ID NO:18 VGEFSKSI RYMLLGNVGESDNGIIQLSKGCPSLQKLEVRGC-LFSEHALALAAQLKSLR ***
SEQ ID NO:22 IGQYSPNVRWMLLGYVGESDAGLLEFAKGCPSLQKLEMRGCLFFSERALAVAATQLTSLR
SEQ ID NO:20 IGQYSGIIQYMLLGNVGESDDGLIRFALGCENLRKLELRSC-CFSEQALARAIRSMPSLR
SEQ ID NO:37 IGQYSPNVRWMLLGYVGESDEGLMEFSRGCPCPNLQKLEMRGC-CFSERAIAAAVTKLP SLR
481

* * * * *
SEQ ID NO:18 YLWVQGFRRSSPTGTDIMAMVRPFWNIEYIVP-----DQDEPCPEHKRQILAYYSLA *****
SEQ ID NO:22 YLWVQGYGVSPSGRDLVLMARPFWNIELI-PSRKVATNTNPDET VVVEHPAHILAYYSLA
SEQ ID NO:20 YVWVQGYKASKTGHDLMMLMARPFWNIEFTPPSSENANRMREDGEP CVD SQAILAYYSLA
SEQ ID NO:37 YLWVQGYRASMTGQDLMQMARPYWNIELI-PSRRVPEVNQQGEIREMEHPAHILAYYSLA
541

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SEQ ID NO:18 GRRTDCPPSVTLLYP AF-----
SEQ ID NO:22 GQRSDFPD TVVPLDTATCVD T
SEQ ID NO:20 GKRSDCPRS VVPLYPA-----
SEQ ID NO:37 GQRTDCPTTVRVLKEPI-----
601
621

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***
SEQ ID NO:30  MEVMAPTASL---LLSPRPLPASRRVPSPALP-----LSASGRLLRRARADTRLRVA
SEQ ID NO:32  MALPHSISALATTLTLSSPITKPKHKVNPFPFSSNRNSQFLTKQTRPRSRRLSLTPARVA
SEQ ID NO:36  -----LRVA
SEQ ID NO:38  MRATIPALSLL---LVTPR-----LPSLAV-----PLAGGRLR-EGGRSRTLRLVA
1
60

** *
** ***** ** * ***** *
SEQ ID NO:30  APPSVPGEAD--QAPGETEPSTSSAD---EKFVWRDHWYPVSLVEDLDPSVPTPFQLLNR
SEQ ID NO:32  APPSTVEADRLLYPEAENNETEEEFSSKFTWRDHWYPVSLIEDLNPLLPFPQLLGR
SEQ ID NO:36  APTSVPGAE--RAEEPSTSTSTSPSSGKFWWRDHWYPVSLVEDLDPRVPTPFQLLNR
SEQ ID NO:38  APTSVPGEAA--EQAEPSTSAPE-----GEKFSWRDHWYPVSLVEDLDPSRPTPFQLLNR
61
120

* *
*** ** ***** * ***** * * *
SEQ ID NO:30  DLVIWKDPKSGEWVALDDRCPHRLAPLSEGRIDETGCLQCSYHGWSFDGSGACTRIPQAA
SEQ ID NO:32  EIVLWYDKSISQWVAFDDKCPHRLAPLSEGRIDEDGKLQCSYHGWSFDGCGSCVKIPQAS
SEQ ID NO:36  DLVIWNDPNSGDWVALDDRCPHRLAPLSEGRIDETGGLQCSYHGWSFDGSGACTRIPQAA
SEQ ID NO:38  DLVIWKEPKSGEWVALDDRCPHRLAPLSEGRIDETGCLQCSYHGWSFDGSGACTRIPQAM
121
180

***** * ** *** **** ***** ***** ** * *** * * * *
SEQ ID NO:30  PEGPEAKAVRSPKACAIKFPTLVSQGLLFVWPDENGEKATATKPPMLPKEFEDPAFSTV
SEQ ID NO:32  SEGPEARAIGSPKACATRFPTLVSQGLLFVWADENGEKAKASNPMPFDDFDKPEFPTV
SEQ ID NO:36  PEGPEARAVRSPRACATKFPTLVSQGLLFVWPDENGEWDKAKATKPPMLPKEFDDPAFSTV
SEQ ID NO:38  PEGPEARAVRSPKACAIKFPTLVSQGLLFVWPDENGEKAAATKPPMLPKEFEDPAFSTV
181
240

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*****
SEQ ID NO:30 TIQRDLYYGYDTLMENVS D PSHIEFAHXHKVTGRRDRARPLPFKMESSGAWGYSNSGNP
SEQ ID NO:32 NIQRDLFYGYDTLMENVS D PSHIEFAHHKVTGRRDRARPLPFKMDSRGSGWFGSNEGPNP
SEQ ID NO:36 TIQRDLFYGYDTLMENVS D PSHIEFAHHKVTGRRDRARPLPFKMESSGAWGYSGANTGNP
SEQ ID NO:38 TIQRDLFYGYDTLMENVS D PSHIEFAHHKVTGRRDRARPLTFRMESSGAWGYSGANSGNP
300
241
*****
SEQ ID NO:30 RISATFVAPCYALNKIEIDTKLPVVGDKWVIWICSFNIPMAPGKTRSI VCSARNFFQFS
SEQ ID NO:32 QISAKFVAPCYMMNKIEIDTKLPVVGDKWVWVICSFNVPMPAGKTRSI VCSARNFFQFS
SEQ ID NO:36 RITATFEAPCYALNKIEIDTKLPVVGDKWVIWICSFNIPMAPGKTRSI VCSARNFFQFT
SEQ ID NO:38 RITATFEAPCYALNKIEIDTKLPVVGDKWVIWICSFNIPMAPGKTRSI VCSARNFFQFT
301
360
*****
SEQ ID NO:30 MPGKAWWQL-----VPRWYEHWTSLNLYDGDMI VLQGEKIFLSAS
SEQ ID NO:32 VPGPAWWQNVVILLFAFNFKQCIHVTVQVPRWYEHWTSLNLYDGDMI VLQGEKIFLSET
SEQ ID NO:36 MPGKAWWQF-----VPRWYEHWTSLNLYDGDMI VLQGEKIFLSAS
SEQ ID NO:38 MPGKAWWQL-----VPRWYEHWTSLNLYDGDMI VLQGEKIFLAAT
361
420
*****
SEQ ID NO:30 KESSADINQQYTKITFTPTQADRFVLAFAFWLKRFGNSQPDWFGNPSQEVLPSTVLSKRE
SEQ ID NO:32 KEGG-DINKQYTNITFTPTQADRFVLAFAFWLRRHNGNQPEWFGNSSDQPLPSTVLSKRQ
SEQ ID NO:36 KESSADVNQQYTKITFTPTQADRFVLAFAFWLKRFGNSQPDWYGSQDALPSTVLSKRE
SEQ ID NO:38 KESSTDINQQYTKITFTPTQADRFVLAFAFWLRRHNGNQPEWFGNPTQEALPSTVLSKRE
421
480

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**** ** ***** * ** *** ****
SEQ ID NO:30  MLDRYEQHTLKCSSCKGAYNAFQTLQKVFMGATVA-----VLLLL-----
SEQ ID NO:32  MLDREFEQHTLKCSSCKAAYEGFQTWQKVLIGATVVFCATSGIPSDFQLRVLLAGLAVVSA
SEQ ID NO:36  MLDRYEQHTLKCSSCRGAHKAFTQTLQKVFMGATVVFGATSGIPADVQLRILLGAGALVSA
SEQ ID NO:38  MLDRYEQLSLKCSSCKGAYNAFQNLQKVFMGATVVCCAAAGIPDPVQLRLLIGAAALVSA
481                                                    540

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SEQ ID NO:30  AIAFALNQLQKNFEFVDYVVAEID
SEQ ID NO:32  AIAFALNQLQKNFEFVDYVVAEID
SEQ ID NO:36  ALAYVFYDRQKHFEFVDYVVAHADID
SEQ ID NO:38  AIAYAFHELOKKNFEFVDYVVAHADID
541                                                    564

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